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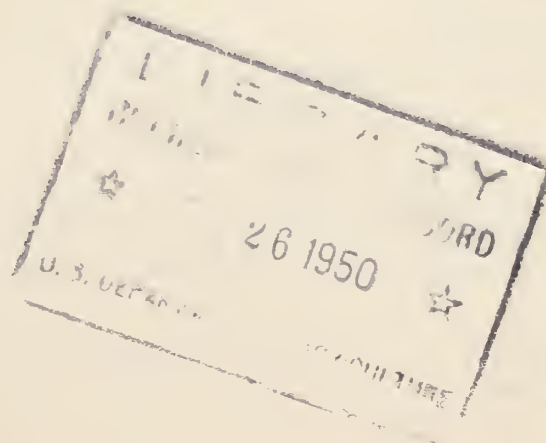
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MARKETING ACTIVITIES



U. S. Department of Agriculture
Production and Marketing Administration
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THREE HOGS WENT TO MARKET

By H. E. Reed Page 3

Actually, about 75 million hogs go to market each year. Many of that number reflect the basic problem outlined here for three hogs--how to determine their true worth in terms of quality and cut-out values. Harry E. Reed, Director of PMA's Livestock Branch, outlines a solution--tentative Federal hog grades that measure quality and at the same time give producers and buyers a standard by which the ratio of lean to fat cuts can be determined.

COTTON TO FIT THE CLOTH

By Norman Hummon Page 10

One of the great gaps in cotton information centers about the question: What cotton is used where? William J. Martin and Joe H. McLure of the Cotton Branch have taken a big step toward answering this question in a 113-page Report, "Market Outlets for Cotton in Some of the Principal Cotton Fabrics." This article is a brief review of that report, summarizing some of the major results of the RMA study, and outlining the methods used in collecting the data.

WIRE TIES CUT LETTUCE LOSSES

By R. W. Hoecker Page 15

A practical way of reducing damage to lettuce in transit was the objective of the Research and Marketing Administration project described here. Cooperation between shippers, receivers, railroads and box manufacturers enabled the researchers to come up with clear-cut results.

MARKET FOR MOLASSES

By Phillip E. Jones and L. John Kutish Page 18

Feed handlers and manufacturers and cattle feeders, as well as the producers of molasses, will find the Report "The Marketing of Feed Molasses," the source of both practical marketing and feeding information. This article summarizes the recent report of that name.

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Three Hogs Went To Market

By H. E. Reed



Three hogs of the same weight were sent to market but that's where the resemblance ended. One hog produced nearly 5 percent more of the preferable lean cuts by weight than the second, and nearly 10 percent more than the third. Yet, because their weight was the same, so was the price paid for them.

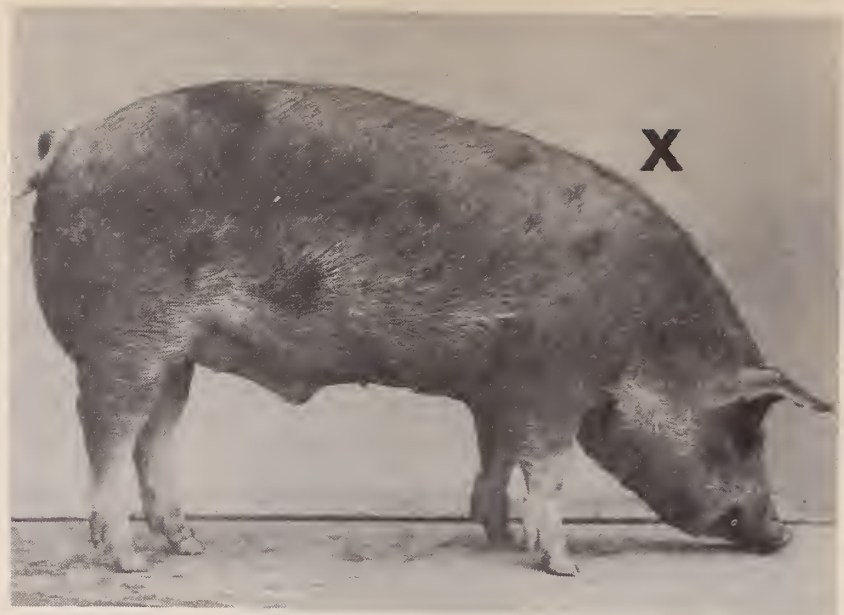
This leads us to the most serious marketing problem confronting the hog industry today. And the problem boils down to this: Too much importance is being given to weight in determining hog prices. For weight is not the only factor determining hog value. If other factors are overlooked, as is done when hogs are being sold on a weight basis, we have an inequitable method of pricing.

Pork Appetites are Changing

From the producer's standpoint, a change is long past due. Certainly it is true that the fatter and heavier the hog, the higher the carcass yield. But with changes that have taken place in the demand for pork products, a measure other than carcass yield should be used to determine the true worth of hogs.

In recent years we have seen rather startling changes in the relative values of pork cuts. The leaner pork cuts have captured consumers' fancy while the fatter cuts have gone begging. At the same time lard, faced with strong competition from vegetable oils, has fared rather badly price-wise. All this adds up to the fact that cut-out yields are more important than carcass yield or weight in determining the value of live hogs.

We in the Livestock Branch of the Production and Marketing Administration, as well as many people in the industry, have realized for some time that the practice of letting scales determine the price of hogs is a bad one. ("Hog Selling on a Merit Basis"--MARKETING ACTIVITIES, May 1949) Pricing hogs according to weight is a fast method of handling hogs in the market place, of course, but since hog shippers are paying their agents to obtain the highest possible net return, speed should not be the criteria for establishing a marketing practice. This is particularly



The range of fatness evident between hog X above and hog Y on the following page is duplicated in thousands of hogs reaching the Nation's markets each day. The side and rear views of hog Y show considerably more fatness than the same views of hog X.

true when the weight method does not provide hog producers with an incentive to produce the type of hogs the market can best absorb.

But we in the Livestock Branch also were aware that talking about improved marketing methods does not necessarily bring about improvement. Before there can be real improvement, there must be some usable standards that both buyers and sellers can employ to identify real quality in hogs. Such standards have been developed.

Live Hog Standards Relate to Cut-out Value

After much painstaking research, (MARKETING ACTIVITIES--October 1949) our specialists are ready to take the wraps off standards for grading live hogs. These should go a long way toward solving this knotty problem of merit selling of hogs. We are not advocating through these standards compulsory Government grading or anything of the sort. The standards are tools that have been developed as a means of appraising the value of a live hog in relation to its eventual cut-out value.

It seems to me that the proposed system of standards is essential for at least three reasons: First, something of this sort is absolutely necessary in the proper sorting and merit selling of hogs. Second, it is as good a solution as I can visualize for curtailing our growing lard problem. And third, it is an answer to the urge for carcass grade and weight selling which seems to come from those who are dissatisfied with present marketing practices. These new live hog standards will permit translation of cut-out values to live hog prices.

Both producer and packer are interested in hogs that produce the largest proportion of the more valuable pork cuts--both from their own economic standpoint and to satisfy consumer preferences. For many years the industry has been aware of the importance of cut-out value of hogs but has lacked a guide by which that value could be quickly and easily



The difference in fatness between hogs X and Y poses the central problem--how to determine the true value of hogs in terms of quality and cut-out values. The proposed solution--tentative Federal hog grades that measure quality and at the same time give producers and buyers a standard by which the ratio of lean to fat cuts can be determined.

appraised in a live hog. With a great deal of assistance from State Experiment Stations, Extension Services, State Colleges and Universities, other Department agencies and the industry as a whole, our standardization specialists, with some financial aid from Research and Marketing Act funds, have developed a system we think will do the job.

Some knowledge of how the grades were developed is needed as a key to better understanding and more successful application of the standards. The first step in developing the grades was to work out standards applying to carcasses and then translate these results into live hog grades.

Based on Lean to Fat Ratio

The carcass grade system is based on the ratio of lean cuts to fat cuts as indicated by certain apparent characteristics of the carcass. This system has proved to be extremely accurate and satisfactory in determining the value of hog carcasses.

In the early development of these standards two factors seemed to be of primary importance: The yield of lean cuts from a carcass and the quality of the meat in the cuts. Consequently, standards that would adequately measure these two factors became our goal.

A great many carcass measurements were given a thorough going-over by our specialists. They came to the conclusion that the yield of hams, loins, picnics and Boston butts were representative of the ratio of lean to fat within the carcass. Once they settled on these four as the primary cuts they sought a yardstick that would indicate the yield of these lean cuts and at the same time not overlook the quality of the cuts.

Shoulder and ham thickness, carcass length and depth, back fat thickness, and other factors were studied to find a clue as to this vital relationship. It soon became apparent to the researchers that back fat

thickness was the best single factor for estimating the proportion of lean to fat within the carcass. Further tests showed that the back fat thickness in relation to the length or weight of the carcass permitted a more accurate estimate of the ratio of lean to fat cuts.

Using these factors, the next step was to develop ranges or limits of thickness that would adequately define the different categories or grades of carcasses. Five grades of pork carcasses are defined in terms of the range in average back fat thickness at different carcass weights. Following is the Schedule of Proposed Carcass Measurements for Grades of Slaughter Barrows and Gilts:

SCHEDULE OF PROPOSED CARCASS MEASUREMENTS FOR
GRADES OF SLAUGHTER BARROWS AND GILTS

Weight (lbs.)		Average Back Fat Thickness ^{1/} of Carcass, by Grade				
Live (Approx.)	Carcass	Choice	Choice	Choice	Medium	Cull
		No. 1	No. 2	No. 3		
		Inches	Inches	Inches	Inches	Inches
140	92	1.46-1.73	1.74-2.02	2.03	1.03-1.45	1.02
170	115	1.51-1.78	1.79-2.07	or more	1.08 1.50	or less
200	138	1.57-1.84	1.85-2.13	or more	1.13-1.56	or less
230	162	1.62-1.89	1.90-2.18	or more	1.18-1.61	or less
260	187	1.68-1.95	1.96-2.24	or more	1.24-1.67	or less
290	213	1.74-2.01	2.02-2.30	or more	1.30-1.73	or less
320	240			or more		or less

^{1/} Average of three measurements made opposite first and last ribs and last lumbar vertebra.

Three divisions of pork quality--Choice, Medium and Cull--are recognized in the five grades. Choice No. 1, Choice No. 2, and Choice No. 3 are comparable in that all produce choice quality cuts, but the grades differ in fatness and in yield of lean cuts. Medium and Cull grades differ in quality of cuts as well as in yield of lean cuts.

Each grade of slaughter barrows and gilts is based on and corresponds to one of the pork carcass grades. The standards describe the characteristics of live hogs that are appraised to determine grade on the basis of lean to fat of the carcass and the quality of the cuts.

Such characteristics as width in proportion to size, shape over the top of the back, width near the top line compared with width near the underline, comparative width through the shoulders and hams are indications of the ratio of lean to fat of the animal. In general, all of

these characteristics change gradually in proportion to each other and to differences in degree of finish, but numerous combinations of the characteristics are found in animals of the same grade.

Following are specifications for live hog grades that are being made available now. These are not officially promulgated standards but are proposed standards that will be promulgated as soon as the use of them corrects any possible shortcomings.

Choice No. 1

Choice No. 1 grade slaughter barrows and gilts have an intermediate degree of finish, as indicated by body proportions and other evidences of fatness. The degree of finish of this grade is near the minimum necessary to insure the production of Choice quality cuts. Hogs of this grade appear moderately wide over the top in proportion to the weight of the animal. Width of body over the top is nearly equal to that at the underline. The back, from side to side, appears well rounded and is slightly full at the edges with a smooth blend into the sides. Width is usually nearly equal through the hams and through the shoulders. The sides are usually moderately long in relation to weight, moderately thick, and usually smooth with moderately thick, full flanks. Depth of rear flank is slightly less than depth of fore flank. Hams are moderately thick and full, indicating a moderate covering of fat. Jowls are usually moderately full and thick. All parts of the body present the slightly full, convex appearance associated with a moderate degree of finish. Barrows and gilts in this grade are expected to produce Choice No. 1 grade carcasses.

Choice No. 2

Choice No. 2 grade slaughter barrows and gilts have a high degree of finish, as indicated by body proportions and other evidences of fatness. The degree of finish of this grade exceeds the minimum necessary to insure the production of Choice quality cuts. Hogs of this grade appear wide over the top in proportion to the weight of the animal. Width of body is slightly greater over the top than that at the underline. The back, from side to side, appears slightly flat and is full at the edges with a noticeable break into the sides. Width is usually slightly less through the hams than through the shoulders. The sides are usually slightly short in relation to weight, thick and smooth, and the flanks are thick and full. Depth of rear flank is nearly equal to depth of fore flank. Hams are thick and full, indicating a thick covering of fat, especially over the lower part. The jowls are usually full and thick, and the neck appears short. All parts of the body present the full, convex appearance associated with a high degree of finish. Barrows and gilts in this grade are expected to produce Choice No. 2 grade carcasses.

Choice No. 3

Choice No. 3 grade slaughter barrows and gilts have a very high degree of finish, as indicated by body proportions and other evidences of fatness. The degree of finish of this grade considerably exceeds the

minimum necessary to insure the production of Choice quality cuts. Hogs of this grade appear very wide over the top in proportion to the weight of the animal. Width of body is considerably greater over the top than that at the underline. The back, from side to side, appears rather flat and is very full at the edges with a definite break into the sides. Width is somewhat less through the hams than through the shoulders. The sides are usually short in relation to weight, very thick and smooth, and the flanks are very thick and full. Depth of rear flank is equal to depth of fore flank. Hams are very thick and full, indicating a very thick covering of fat, especially over the lower part. The jowls are usually very thick and full, and the neck appears very short. All parts of the body present the very full, convex appearance associated with a very high degree of finish. Barrows and gilts in this grade are expected to produce Choice No. 3 grade carcasses.

Medium

Medium barrows and gilts have a slightly low degree of finish, as indicated by body proportions and other evidences of fatness. The degree of finish of this grade is slightly less than the minimum necessary to insure the production of Choice quality cuts. Hogs of this grade appear slightly narrow over the top in proportion to the weight of the animal. Width of body is slightly less over the top than that at the underline. The back, from side to side, appears slightly peaked at the center, especially over the shoulders and immediately behind the shoulders, and lacks fullness along the edges with no readily apparent break into the sides. Width is usually slightly greater through the hams than through the shoulders. The sides are usually long in relation to weight, slightly thin and wrinkled, and the flanks are thin. Depth of rear flank is somewhat less than depth of fore flank. The hams are slightly thin and flat with a slight tapering in the lower parts. Jowls are usually slightly thin and flat, and the neck appears rather long. All parts of the body present the slightly concave appearance associated with a slightly low degree of finish. Barrows and gilts in this grade are expected to produce Medium grade carcasses.

Cull

Cull grade slaughter barrows and gilts have a very low degree of finish, as indicated by body proportions and other evidences of fatness. The degree of finish of this grade is considerably less than the minimum necessary to insure the production of Choice quality cuts, and most cuts are suitable only for processing. Hogs of this grade appear narrow over the top in proportion to the weight of the animal. Width of body is somewhat less over the top than that at the underline. The back, from side to side, appears peaked at the center and slopes into the sides with no apparent break. Hips are often rather prominent. Width is usually somewhat greater through the hams than through the shoulders. The sides are usually very long in relation to weight, very thin and wrinkled, and the flanks are very thin. Depth of rear flank is considerably less than depth of fore flank. The hams are very thin and flat with a decided tapering in the lower parts. Jowls are usually very thin and flat, and the neck appears very long. All parts of the body present the concave appearance associated with a very low degree of finish. Barrows and gilts in this grade are expected to produce Cull grade carcasses.

There is good evidence to indicate that experienced hog men can familiarize themselves and make use of these live hog standards in a short time. In fact, actual demonstrations have proved this to be true. Further, both producers and hog buyers have often been amazed at the live hogs that are placed in the Choice No. 1 grade--they are accustomed to placing emphasis on a much fatter hog. However, when they have seen the carcasses there was invariably agreement that the grading system identifies the hogs producing the most valuable carcass. Generally the demonstrations which we have been able to give thus far have met with considerable enthusiasm from both producers and packers.

Lest hog producers feel that this system will cause drastic changes in breeding programs, let me assure you that any of our present breeds of hogs, if properly selected, fed, and marketed, will produce a Choice No. 1 carcass. Undoubtedly some breeds will utilize feed more efficiently than others and will lend themselves to the attainment of heavier weights without becoming excessively fat, but under this system of grading it is possible for most any weight gilt or barrow to qualify for Choice No. 1 if selection, feeds and management practices are properly controlled. This grading system, if used, will provide the basis for giving recognition to the producer who has consigned an outstanding lot of hogs. In most cases, he has been getting little if any recognition in the prices he receives. Under present selling methods, if his hogs having a high cut-out value fall within a certain weight bracket, he receives approximately the same price as the shipper who consigns overfat and poorer cutting hogs of the same weight bracket. The best load of hogs cuts out much more money for the processor and carries the fat load for the packer to average out cost.

A Basis For Premium Prices

This should not be interpreted as suggesting that the use of these standards will make packers pay more total money for hogs than competition forces. Use of these standards should prompt a better job of distributing the total amount of money among producers on the basis of the quality and value of hogs. Instead of selling all hogs within a given weight range at the same price, selling individual lots of hogs on their merits is essential if quality production is to be rewarded with premium prices.

Remember those three hogs of the same weight that went to market and were sold for the same price? Chances are that all three produced choice quality cuts...but that's where the resemblance ended. The first hog probably would have graded Choice No. 1 under this system...since it had the highest cut-out of lean cuts, and Choice No. 1 carcasses produce about 48 to 51 percent of their weight in the four primary lean cuts of hams, loins, picnics and butts.

A Choice No. 2 carcass produces only 45 to 48 percent of its weight in lean cuts and a Choice No. 3 will cut out less than 45 percent in the four lean cuts. It's rather simple to see that the first hog carried the price load for the other two when the "three hogs went to market." Basic understanding of how these live grades were arrived at and the eventual carcasses live hogs will produce along with application of these live grades will provide producers an opportunity to sell hogs on merit as well as provide buyers a means by which to translate real cut-out values into live hog prices.

Cotton To Fit the Cloth

By Norman Hummon

Whether your question is "what is the relationship between the price of cotton fabric and the amount of fabric produced?" or "what sort of stuff is a strait-jacket made of?" you'll find it covered in the 113-page report, MARKET OUTLETS FOR COTTON IN SOME OF THE PRINCIPAL COTTON FABRICS. Prepared by the Cotton Branch of the Production and Marketing Administration, the report represents the results of a study that has been under way for more than 2 years, financed under the Research and Marketing Act of 1946.

The objective of the study is designed to fill one major gap in information about cotton: "What are the specific quantities and qualities of raw cotton required for the major types of cotton textile product?" The authors, William J. Martin and Joe H. McLure, have blended essential technical, economic, and theoretical findings into a comprehensive but understandable report. Charts and diagrams help clarify the necessarily intricate relationships between price and consumption, production and utilization, and raw cotton grade and the finished fabric.

Putting Cotton Utilization in Order

Admitting that not all the answers can be sharply outlined, the authors point out that certain imponderables, the unusual and the theoretical, have had to be considered. They insist too, that there is nothing sensational about the results, for changes in cotton come slowly. The direct, immediate value of the study is in its contribution toward putting cotton utilization in order. "Under the existing system of cotton marketing," they write, "the various qualities produced each year go into a wide range of manufactured products for which they may or may not be best suited." While the requirements and the preferences of cotton processors are not fixed, it is time that what is practiced or proved be summarized in usable form.

In a longer-range sense, this report, and reports to follow, should be of even more value to those responsible for formulating cotton improvement and marketing programs. Cotton breeders, aware of more specific mill requirements, will be in a position to shape their varietal development toward meeting needs of particular fabrics; cotton producers will be able to plant varieties for which there are dependable market outlets.

Essentially the report has been prepared to serve men in the business of producing and processing cotton, and appropriately, the language

of the trade has been retained. The introduction and summary sections, however, are devoted largely to broader facts or discussions about cotton which should interest us all.

The study showed that during the period under observation the major factors affecting either output or consumption were the unnatural conditions created by World War II. The comparative tables indicate that aside from the major variations resulting directly from the war emergency, trends in consumption or production have been gradual. Fine goods, such as combed lawn and combed broadcloth, have suffered in periods of depressed consumer income, whereas such commonly used fabrics as sheeting, duck, and osnaburg, have maintained more constant levels of consumption.

Price and Consumption Relationships Studied

Classified as "preliminary" are results showing a sharp relationship between price and consumption for print cloth and wide sheeting. A relationship between price and consumption for print cloth, for example, indicates a very high index of correlation--86. For the two decades studied, the report shows that under average marketing conditions, provided other conditions remained the same, manufacturers of print cloth would consume 292,000 bales of cotton a year when the price of the cloth was 60 cents a yard. At 20 cents a yard for cloth, manufacturers would consume 880,000 bales a year.

Procedure Outlined

In obtaining data for one of the principal aims of the research--the determination of quality--the direct approach was to select 10 representative cotton fabrics and ferret out the most complete figures obtainable on consumption, production, and pricing as well as the many distinguishing properties among raw cotton, yarns, and finished fabrics. The 10 fabrics selected--plain print cloth, wide sheeting, narrow sheeting, denim, drill, duck, osnaburg, carded broadcloth, combed broadcloth, and combed lawn--represented an aggregate market outlet of 3,092,000 bales in 1948, or about one-third of that year's total domestic consumption. Utility of these fabrics stretches from the extremes of rough, coarse osnaburg sack- ing to filmy negligees made from lawn. In continuing the research under this program, other cotton products will be studied, and the results made available in later releases.

Such broad differences in composition among the fabrics selected are naturally the result of fairly rigid specialization, and so the next step was to select a representative number of mills manufacturing each of the particular fabrics. These groups were further divided by size into smaller groups--to insure adequate representation by volume of production--and from these subdivisions the mills producing the specific fabric in question were chosen at random.

These mills were visited periodically by staff members of the Cotton Branch who obtained data and samples of raw cotton, yarn, and fabrics for testing at the laboratories of the U. S. Department of Agriculture. The procedure was to obtain samples of raw cotton from each bale in the

"mix" to be processed, while 10 bobbins of warp yarn, 10 bobbins of filling yarn, and 5 one-yard samples of fabrics were chosen to check against the laboratory-manufactured product.

At Cotton Branch laboratories, fiber strength, fineness, maturity, color, grade, and fiber length were examined. The samples from the mill bales were then composited into about a 10-pound "mix" and spun, and then woven into fabric. The results were then matched directly against the properties of the yarn and fabric samples secured from the mills in an effort to obtain all qualitative data possible. As a further check, these results were compared with laboratory bench marks maintained in USDA records.

Information in the report relating to quantities involved has been based on data obtained from the Bureau of the Census. From this source quantitative statistics for some fabrics manufactured are available for the period 1921 through 1948. Figures on fabric production have been converted by the Cotton Branch to the approximate quantities of raw cotton utilized in the manufacture of these specific fabrics. In making these estimates recognition has been made of such factors as waste fibers removed in processing, and sizing or starch that adds weight to the fabric. In all cases where variances had to be recognized average values have been used.

No Clear Cut Pattern for Cotton Grade and Utilization

The report disclosed that in actual manufacturing practice no sharp differentiation exists in regard to the average grade of cotton used in the several fabrics. Except for denim and osnaburg, which used very low qualities, the average grade was in the Strict Low Middling to Middling range. Average staple length of the cotton used in the various fabrics, however, varied to an appreciable extent. For example, the cotton used in duck averaged 5/16 inch, that in wide sheeting 1 inch, and that in combed lawns averaged 1 1/8 inches.

The study revealed, too, that both grade and staple length vary to a considerable extent among the different mills making the same type of fabric. For instance, one narrow sheeting mill used cotton averaging about Low Middling, while another used cotton averaging Strict Middling. The average staple length used in the mill mixes in these sheeting mills varied from about 7/8 inch to 1 1/32 inches. The explanation for these variations is found largely in differences in manufacturing organization and in the quality of fabric required for each particular end use. As to differences in quality of the finished product the Cotton Branch points out that insufficient data are on hand to "compare differences in cost of manufacturing and differences in mill efficiency except as reflected in product quality."

For the periods for which adequate data are available--for some fabrics as far back as 1921--annual per capita consumption has been estimated. Annual consumption was analyzed to show proportional comparisons,

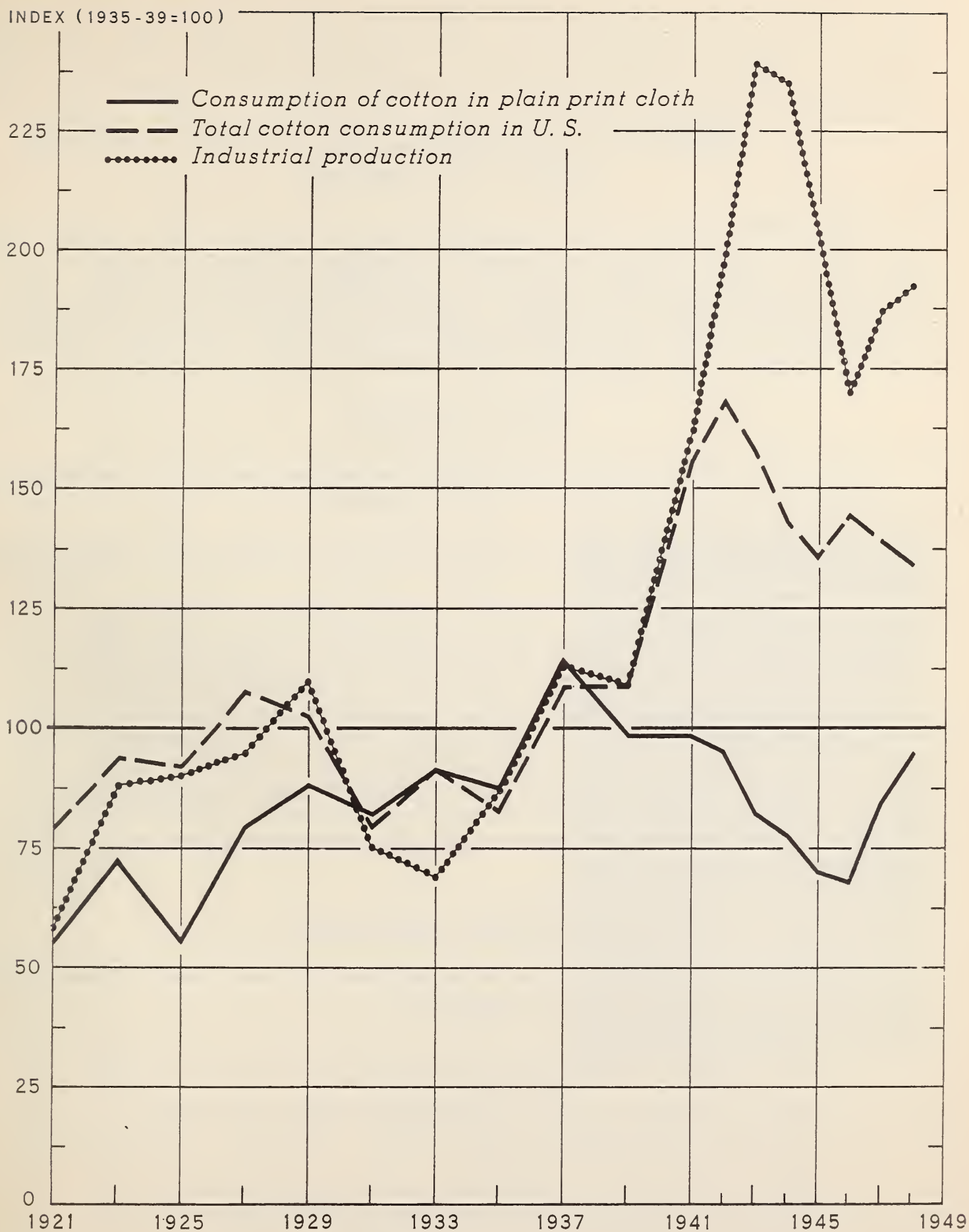


FIGURE 1.--Consumption of cotton in plain print cloth in comparison with total cotton consumption and with industrial production in the United States, for specified years, 1921 to 1948.

periods of high income, and World War II. These figures make it clear why it was nearly impossible to buy a white shirt a few years ago, when output of combed broadcloth was cut to nearly one-third in favor of more pressingly needed fabrics such as drill and duck used in military uniforms and equipment.

Fashion's Role Unknown

What part fashion plays in production of a fabric for a given year has not been determined by research. Varying with the fabric, fashion must be considered along with such other factors such as quoted fabric price, general commodity prices, industrial activity, mill margins for the particular fabric, consumer income, population increase, and elasticity of demand for the particular product.

Fabrics Described

For each of the fabrics selected, descriptions convey information of interest to both technical and lay readers.

For example, the report describes drill in technical language as:

"A strong medium- to heavy-weight twilled cloth made from coarse carded yarns. In a twill weave, each end floats over at least two consecutive picks, and the points of intersection move one outward and one upward (or downward) on succeeding picks. Such a process forms the diagonal lines commonly associated with this fabric. The principal purpose of this weave is to provide a fabric with greater weight and firmness than similar fabrics of plain weave. A twill weave is not only decorative but it also has greater tearing and ripping strength than plain weave."

About Batiste and Nainsook

Less technical descriptions such as the following identification of lawn may be of value to many homemakers:

"Lawn is a light-weight, sheer, fine fabric made with fine carded or combed yarns and woven in a high thread count. A large variety of names, including organdy, batiste, and nainsook, are associated with this fabric, such designations depending upon the finish and the number of the yarn. Although lawn may be given a soft or a crisp finish, it is usually semi-crisp; not as soft as voile nor as crisp as organdy."

For all fabrics discussed, specific uses of each are given, even to a listing of some 85 products made from duck. Such painstaking detail is characteristic of the thorough approach evident throughout this report.

Wire Ties Cut Lettuce Losses

By R. W. Hoecker

Reducing shipping damage to lettuce by tying a single wire around each crate is a recent improvement resulting from organized research. Preliminary tests made on five carload shipments of lettuce indicate that when a strand of wire is tied around the bulge, crate breakage is reduced by nearly 50 percent. The tests were made with standard, widely used Los Angeles crates (called by the trade the "LA crate").

Some indication of the importance of this kind of improvement may be gained from figures on damage ordinarily sustained during shipment. For example, total loss and damage to lettuce shipments by rail in 1948 were \$1,700,000, and damage attributed to package failures of the type studied in the 5-car test was \$700,000. If breakage could be reduced generally by the same percentage shown in the test, there would be a gross reduction in damage of nearly \$350,000 in a single year for a single commodity. What the savings would be if this or other improvements were made in shipping containers for other kinds of produce is not known, though further tests are being made.

Get Results to the Trade

It is recognized that tests of only five cars may not yield the exact percentage of reduction in damage that would result from general use of wire ties, but it is felt that the results of the test are of sufficient significance to warrant their being passed on to the trade.

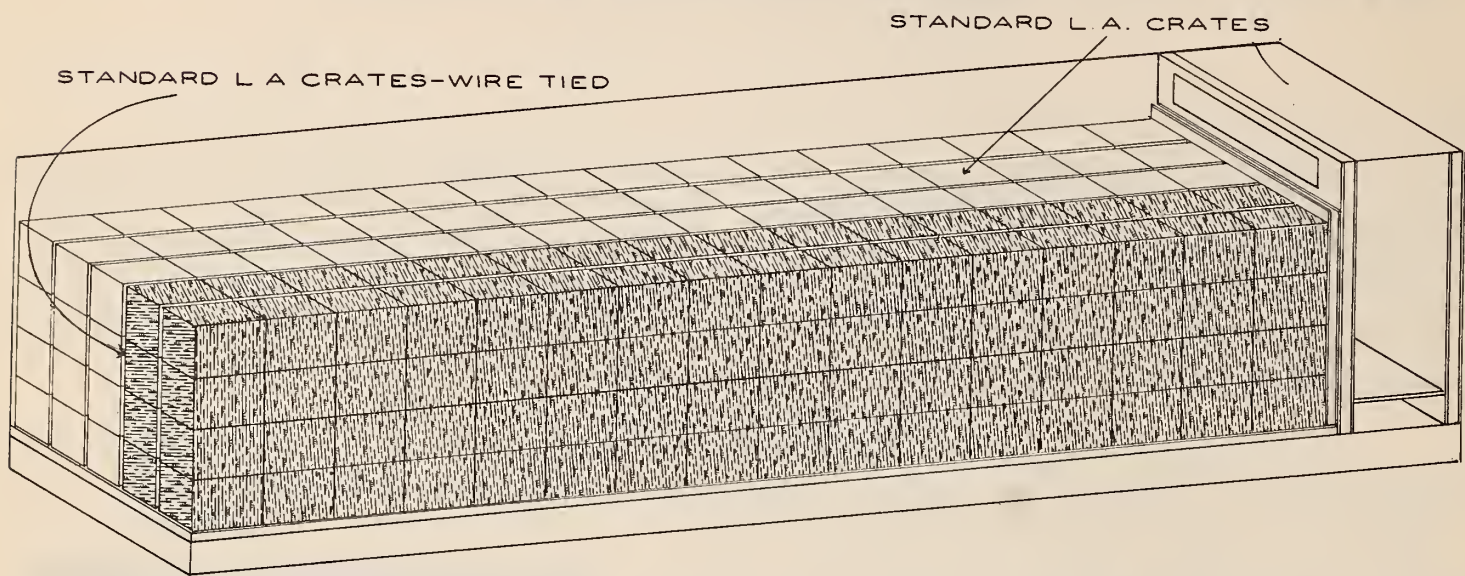
The experiment with lettuce shipments was made as part of a research project under authority of the Research and Marketing Act. The work was done by the Western Growers Association, under contract with the U. S. Department of Agriculture and under the supervision of the Marketing and Facilities Research Branch of the Production and Marketing Administration. In the same project, better containers are being sought for several other vegetables.



The bulge of the untied crate in the foreground contrasts with the trimmer lines of the wire-bound crates in the back of the car.

In the lettuce experiment, standard LA crates of lettuce and identical crates to which had been added a wire tie around the middle were loaded into each of five cars. Five rows of crates were loaded from end-to-end of each car, three of the rows being crates without wires, while

LOADING PATTERN OF TEST CARS

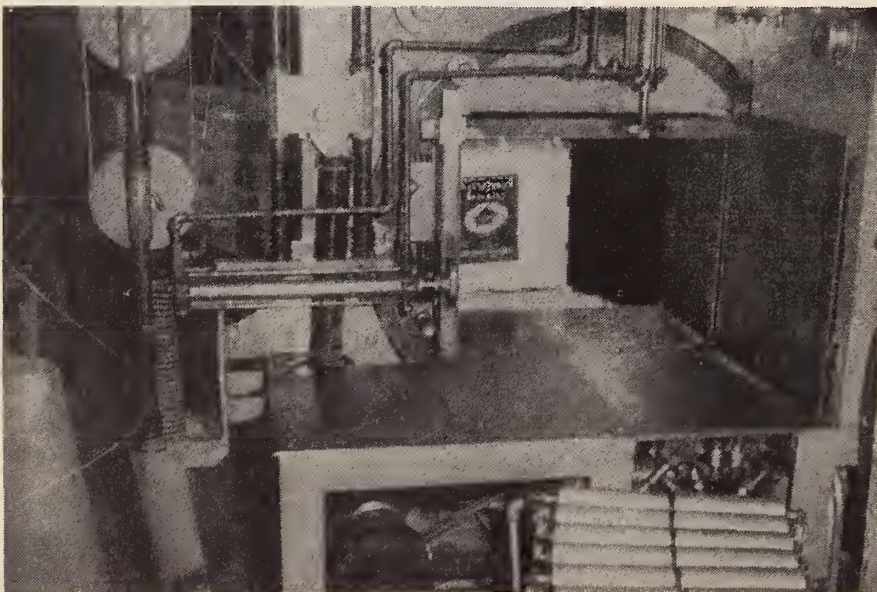


BOTH TYPE OF CRATES WERE SUBJECTED TO IDENTICAL TRANSIT CONDITIONS

the other two rows were crates with wire ties. The loading and unloading were observed carefully to make sure there was no material difference in the handling of the two types of crates.

Damage Analyzed

The cars were shipped from Salinas, California, to New York City. At the end of the trip it was found that: Of the 926 unwired crates shipped, 107 were damaged, or 11.5 percent. Of the 640 wire-tied crates, only 40 were damaged, or 6.2 percent. And in every car there was less damage to the wire-tied crates than to the crates without wires.



The capacity and design of the wire-tying machine permit it to be installed after any standard lidding equipment. are lidded with ordinary equipment.

The wire was tied around the middle of the crates by a new machine developed to fit into the regular packing operation. The device can be installed on the packing line right after any standard lidding machine, and it binds at about the same speed as crates

The 15 1/2 gage wire used in the test costs about one-fourth of a cent for each wrap. A few shippers made records of the cost of placing the wire on the crates, and, while these data are not sufficient to be conclusive, they showed costs ranging from 1 1/2 to 2 cents a crate, which adds up to \$4.70 to \$6.25 a car.

This search for better shipping containers has resulted in a year's postponement of an Interstate Commerce Commission order reducing the bulge allowance on crated lettuce from 2 1/2 inches to 1 5/8 inches. The ICC is awaiting results of the PMA study. The project is under the direction of the author, of PMA, and C. B. Moore of the Western Growers Association. The Association has employed J. Prescott Blount and L. J. Voegeli to work at the western shipping points and George Woodhams to cover eastern depots.

BREAD CONTAINING MILK FOUND MORE APPETIZING

Bread containing milk not only has better appearance, flavor, and keeping quality, but also appeals more to consumers, states Dr. E. L. Jack, of the University of California, speaking before those attending the American Dry Milk Institute in San Francisco.

Dr. Jack outlined for the Institute an experiment wherein a group of 320 boys were fed breads containing 0, 6, 10, and 14 percent nonfat dry milk solids for successive periods. The bread consumption increased with increasing amounts of dry milk solids in the proportions of 100, 104.4, 107.1, and 112.6 percent for the respective amounts of milk. The results of the experiment bore out that consumption increased as the amount of nonfat dry milk solids in the bread was increased.

EXPORTS OF VEGETABLE AND INDUSTRIAL OILS ANNOUNCED BY PMA; FLAXSEED CONVERTED TO OIL

For the period July 1, 1949--February 28, 1950, the Fats and Oils Branch, PMA, purchased about 200 million pounds of vegetable and industrial oils (soybean oil, coconut oil, peanut oil, fish oil, and tallow) for ECA and the Army. January and February purchases of approximately 1500 tank cars (61,000 lbs.= 1 tank car) of crude soybean oil are now being delivered to Bizone and Trizone Germany.

Also being delivered currently to ECA are about 29 million pounds of crude cottonseed oil crushed from CCC's stocks of cottonseed purchased under the cottonseed Price Support Program. This oil, presently located in Texas, will be exported through the port of Houston. In addition to these present operations, arrangements are being made to export approximately 6 million pounds of Menhaden fish oil.

Announcement has also been made by PMA that approximately 4,500,000 bushels of flaxseed has been converted into linseed oil (approximately 87,700,000 lbs) by selling to processors CCC owned flaxseed and purchasing the oil crushed from that flaxseed at a negotiated price, with the processors keeping the meal.

Market for Molasses

By Phillip E. Jones and L. John Kutish

Certain price relations have shifted since the war in a way that makes particularly economical the use of molasses as an ingredient in livestock feeds. The volume of molasses now moving into feeds, and taking advantage of the favorable price situation, is growing rapidly--probably at a rate greater than the molasses trade itself realizes.

Molasses can be substituted, up to a point, for other carbohydrate feeds. When used as recommended by the U. S. Department of Agriculture, the feeding value is about 70 percent, pound for pound, of the feeding value of corn. Molasses is ordinarily economical to use whenever 6 1/2 gallons of it costs less than a bushel of corn.

Prices Have Fallen

Blackstrap molasses is the mother liquor that remains after the crystallization of sugar from the juice of the sugar cane or sugar beet. The price of this blackstrap has dropped drastically during the last 3 years. During the 12 months ending with June 1948, it averaged 31 cents a gallon in the wholesale price quoted at New York City. During the next 12 months the average price was 16 cents. Six months later, for December 1949, it was quoted at 8 cents a gallon--and information from the trade is that volume sales were being made at prices from a fourth to a third under the quoted price.

Corn also has declined during the last two or three years, but not so much as has molasses. During the 12 months ending with June 1948, a bushel of corn cost 55.5 cents more than the quoted price of 6 1/2 gallons of blackstrap molasses at New York. In that period, it is estimated that 131.6 million gallons of cane and beet industrial molasses were used as livestock feed in the United States. During the next 12 months a bushel of corn cost 70.6 cents more than the quoted price of 6 1/2 gallons of molasses. The volume of molasses used as feed during this period is estimated at 177.5 million gallons. By December 1949 the price difference between 6 1/2 gallons of molasses and a bushel of corn had reached 103.3 cents.

Suitable for Mixes or Direct Feeding

Molasses can be used by commercial feed mixers or by farmers on the farm. Large commercial mixers use it in prepared formula feeds. Small commercial mixers use it in prepared feeds and custom mixes. Farmers use it for direct feeding and home mixing, and as a preservative for grass silage.

Although direct use by farmers is increasing, much the greater share of feed molasses goes into commercially mixed feeds, principally dairy feeds. Interviews with large Midwestern and Northeastern commercial feed mixers indicate that they use considerably more molasses since the war. There are two reasons for this increase. They are using a higher content of molasses in their mixes, and they are using molasses in types of feed where it was not used before. The molasses content of cattle feeds mixed by large companies appears to be about as high as present mixing equipment can make it. Some equipment is being changed to handle a higher percentage of molasses.

Small commercial feed mixers are a large potential market for molasses. This market has gone untapped in wide sections of the country for two reasons. One is that the special mixing equipment that is necessary costs too much, in relation to the volume that small mixers turn out. The other reason is that many small mixers can't take molasses deliveries in tank-car lots, and thereby participate in the economies of bulk purchasing.

In some sections of the country, special low-cost small-scale mixing equipment has been developed. In some sections, molasses is being delivered to small mixers in tank trucks. If tank trucks were in general use for this purpose, costs might be substantially reduced. In one Northeastern section, tank-truck delivery cut the costs of molasses to small mixers by about 25 percent. If equipment could be afforded by mixers of much smaller production capacity than can afford it now, the use of molasses as feed would increase accordingly.

Marketing Margins Bulk of Retail Cost

The most important marketing margins are these: (1) Transportation, from the U. S. seaport terminal where the molasses cargo is discharged, to the city where the molasses is barreled. (2) Barreling, handling, and wholesale mark-up. (3) Transportation to retail feed stores, handling, and retail mark-up. Together, these three factors account for about 70 percent of the on-the-farm cost of molasses.

Most barreled molasses that reaches the farm is sold to the farmers by feed mixers. Small mixers in rural New York buy in bulk from tank trucks and sell direct to the farmer. This system cuts out a marketing step that is important in, say, Wisconsin--the transportation of barreled molasses to retail feed stores and the retail handling and mark-up.

The distribution system in New York is indirectly responsible for the reduction there of another important marketing margin--the mark-up for barreling, handling, and wholesaling. Because so many rural New York feed stores barrel molasses, competition among them for sales narrows the margin for comparable services much more than it does in the Midwest, where fewer firms barrel molasses.

These two factors in New York help hold the spread between the price paid by the barreling firm and the price the farmer pays for barreled molasses to 3.5 cents per gallon. In much of Wisconsin this spread amounts to about 11 cents.

The direct farm feeding of molasses is concentrated in the Southwest, the Rocky Mountain area, and the West Coast. The practice appears to be especially well suited to the feeding of beef cattle. The systems for distributing molasses to Texas and California farmers are based on the use of tank trucks to supply large-scale farm units.

It is estimated that the production of grass silage has quadrupled since 1944. A preservative is necessary for the proper ensiling of high-moisture crops, which are high in protein and low in sugar content. Molasses is used extensively for this purpose; it provides the additional sugars necessary to assure a desirable lactic acid fermentation in such silage. At least 75 percent of the feeding value of the molasses is retained in the silage. If molasses is available in volume at a reasonable price, this demand for it may be expected to continue.

Handling Problems

The liquid form of molasses has important disadvantages. It is sticky. There is a limit to how much of it can be mixed into feeds with present mixing equipment. A heavy proportion of liquid molasses increases the difficulty of maintaining balance in some formulas. And as for direct use, many farmers just do not like to handle it, especially in 55-gallon barrels.

If molasses were dried, most of its objectionable qualities would disappear. Indeed, dried molasses products are on the market now. One such product is being distributed rather widely in the Midwest, even though it retails for more than double the price of corn. Large feed mixers say dried molasses must sell for a price no higher than corn, if they are to be able to use it. Molasses in both forms would be used, but much the larger portion would probably be dried. If such a price situation could be reached, they say, the market for dried molasses would be "tremendous."

SWEET POTATO DEHYDRATORS FACE SUPPLY SHORTAGES

Dehydration of cull sweetpotatoes for livestock feeding is on the decline in Louisiana, according to a recent L.S.U. survey quoted by the Agricultural Committee of the New Orleans Chamber of Commerce. The survey shows that while 54 dehydrating plants operated in 1946-47, only 37 plants were in operation during the 1948-49 season--principally because many plants failed to get sufficient supplies to keep them in operation. But while the number decreased, the total output did not decline. It was found that a large volume of cull potatoes is necessary to profitably operate a dehydration plant.

Most dehydration operations are on the basis of using cull potatoes to produce the dehydrated feed which has become popular for feeding livestock. Research work continues to seek high yielding varieties which could be used specifically for dehydrating purposes. With greater yields and the use of more mechanical equipment in planting and harvesting the crop, it may soon be possible to profitably produce a large volume of this type of feed.

Marketing Briefs

Cotton.--Representatives of cotton trade associations in Belgium, England, France, Germany, Italy, Japan, Spain, and the Netherlands will meet with cotton experts of USDA on May 1 at Washington, D. C., to participate in the first international conference on cotton standards since 1946. Copies of the universal standards for the grades of American upland cotton for use by the Department and by the arbitration and appeal committees of the principal cotton associations of Europe will be approved during the conference. Under the Universal Cotton Standards Agreements, negotiated in 1923 and revised in 1925, European associations adopted American grade standards as the basis of all their contracts for the purchase and sale of American cotton in which grades are specified....The development of cottons with new and better fiber properties by crossing certain species with others was recommended for early initiation--in fiscal year 1950 if possible--by the Cotton and Cottonseed Advisory Committee at its Washington meeting March 1 and 2 with USDA officials. The need for genetic research along this line is imperative, the Committee believes, if cotton is to compete more successfully with other fibers in the textile industry....Through, February 17, 1950 CCC has sold 131,384 bales of 1948-crop cotton, USDA has announced. The cotton was sold pursuant to the announcement of September 30, 1949, when CCC offered cotton from its stocks to supply demands until 1949-crop cotton became available. A catalog has now been issued covering the 1948-crop pooled stocks, which will be offered at intervals on a competitive bid basis. A total of 3,793,000 bales was pooled on August 1, 1949 for producers' account. Persons interested in this cotton should contact the Director, PMA Commodity Office, Masonic Temple Building, New Orleans 12, Louisiana.

Dairy.--Arrangements have been made to sell 44 million pounds of CCC-owned nonfat dry milk solids to the Netherlands for animal feed uses under an ECA authorization of funds for that purpose, USDA has announced. Department officials stated that the sale of this quantity will help provide an outlet for surplus supplies which have been acquired under the price-support program for manufacturing milk. The sales quantity consists chiefly of the oldest stocks now held by the Government, purchases of which began about a year ago. These stocks are being sold for animal feeding purposes because they are known to be of questionable quality for human consumption. Government stocks of nonfat dry milk solids now total approximately 221 million pounds, but will be reduced to about 177 million pounds as a result of this transaction. Department officials expect that shipment of the supplies will be made before June 30, 1950.

Fats and Oils.--USDA announced February 23 that all types of olive oil have been removed from import control of the Agriculture-Import Order. This action, effective as of February 25, 1950, as in line with the Department's general policy of encouraging export and import trade

by removing at the earliest possible date the import control of specific commodities which are normally imported by the United States.

Fruits and Vegetables.--Upon recommendation of the Idaho-Eastern Oregon Potato Committee, USDA announced February 24 issuance of a regulation requiring potatoes shipped from the area to be "generally fairly clean." This requirement is in addition to the limitation which has been in effect all season, and which continues in effect, restricting shipments below U. S. No. 2 grade, 2 inch or 4 ounce minimum size. The regulation, effective as of March 6, 1950 remains in effect until June 1, 1950.

Grains.--Soybean acreage allotments will not be established for 1950-crop soybean production, USDA announced late in January. The carry-over or reserve supply of old-crop soybeans last October 1--before the 1949 crop came in--was only about three million bushels. This represented about one and one-half percent of the annual production in 1948 and 1949--a little above 200 million bushels each year. This carryover of three million bushels is less than half the average carryover of around six and one-half million bushels for the years 1944-48, a period of heavy demand. Based on the indicated domestic and export demand during the present marketing year (1949-50), it is not expected that the carry-over next October 1 will be materially larger than the three million bushels which were carried over last fall.

Livestock.--Purchases of prime steam lard by USDA under announcement LS-45 dated February 9 amounted to 1,279,000 pounds. These purchases under a U. S. Army requisition for relief feeding in Okinawa were made at an average cost of 13.09 cents per pound f.a.s. San Francisco. Delivery will be in the period March 1-15, 1950. To date since December 20, approximately 117.7 million pounds of lard have been purchased for export....Effective March 1 are slightly revised rates and charges of commission firms operating in the Sioux City, Iowa, livestock market. Thomas J. Flavin, judicial officer of the U.S. Department of Agriculture, established the new rates in a January 31 order, USDA has announced. This action was taken under the provisions of the Packers and Stockyards Act. The new rates, which are slightly higher than those replaced, will go into effect March 1, 1950, were determined on the basis of extensive hearings held as a result of a petition filed by the Sioux City commission firms seeking an increase in their rates and charges. The order rejected a proposal by the commission firms that rates be fixed on a percentage of value basis rather than on the flat per head rate followed in previous major commission rate determinations under the Act. In rejecting this proposal the order continues the present method of setting rates for commission firm charges. A release containing the full announcement and rates may be obtained from the Livestock Branch, PMA, USDA, Washington 25, D. C.

Naval Stores.--USDA stated in late January that the price support level for 1950-crop gum naval stores will remain at 60 percent of parity as announced last November. Naval stores interests had requested reconsideration of the previous action. After full consideration by the Board of Directors of the Commodity Credit Corporation of all factors involved, it was decided that it would not be advisable to change the determined support level.

Poultry.--Surplus stocks of dried eggs and nonfat dry milk solids acquired by CCC under price-support programs, are now available for donation to private as well as to public welfare organizations for the relief of needy persons in this country and to private welfare organizations for the relief of needy persons abroad, USDA announced early in March. Under an earlier announcement (February 8) donations were limited to School Lunch programs, the Bureau of Indian Affairs, and Federal, State, and local public welfare agencies, which make up the first donation priority under Section 416 of the Agricultural Act of 1949. Since it has been found that stocks are more than adequate to meet requests under this first priority, eligibility to receive donations has been extended to all priorities. Surplus stocks of potatoes were made available to all priorities on January 17. All current stocks of dried eggs and nonfat dry milk, except those currently being acquired under the 1950 price-support program are available for donation. The available stocks amount to about 72 million pounds of dried eggs, and 121 million pounds of nonfat dry milk solids.

Sugar.--CCC has agreed with the Puerto Rican Sugar industry to buy 220,000 short tons of sugar at a price of 4.60 cents per pound, basis 96° polarization, f.a.s. Puerto Rican port of shipment, USDA announced February 6. This sugar, purchased on behalf of the Economic Cooperation Administration, will be shipped to Germany and Austria during the months of March, April and May to meet civilian sugar requirements in those areas. The agreement was concurred in by members of the Association of Puerto Rican Sugar Producers, the Puerto Rican Farm Bureau, the Sindicato Azucarero de la CGT, the Land Authority of Puerto Rico, Central San Vicente, Inc., and Mario Mercado e Hijos.

Wool.--Price support on 1950 wool production will be at 90 percent of the parity price of wool on March 15, 1950, USDA announced January 30. The schedule of support prices by grades will be announced about April 1. The Agricultural Act of 1949 requires that the price of wool be supported between 60 and 90 percent of parity. The Act provides further that the support shall be at a level within the range needed to encourage an annual production of approximately 360 million pounds of shorn wool. Shorn wool production in 1948 totaled 234 million pounds and 1949 production is estimated at 216 million pounds. In order to provide the maximum incentive for increased production of shorn wool as required by law, the maximum level of support has been established. On the basis of current estimates, production in 1950 is not expected to be much different from that of 1949. Prices of shorn and pulled wool will be supported through purchases, and the program will run from April 1, 1950, to March 31, 1951 (normal marketing period for shorn wool). Two significant changes relating to price differentials between grades and to the method of purchasing wool from producers have been made in the program for 1950. Under the 1950 program, purchase prices, while reflecting 90 percent of parity, will follow the 1949 average market price relationship between grades. Under previous programs, the purchasing price schedule was more closely related to the prewar price relationship between grades than to postwar market prices. In the other major change being made in the program, producers will be given an opportunity to decide after appraisal whether or not they want to sell their wool to the Department. In pre-

vious years, after wool was tendered producers could not withdraw it from the program.

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IS SELF-SERVICE FOR ME?

Self-service has proved itself in almost all stores which have given it a try. That doesn't mean, however, that it should be rushed into blindly. The majority of retailers are not using the self-service method, and undoubtedly many of them need to check their operations for those characteristics which will make conversion successful.

A word of caution and some important questions which ought to be answered before a retailer considers self-service have been outlined by A. T. Edinger, of PMA's Marketing and Facilities Research Branch.

As one of the Department's specialists in meat marketing, Mr. Edinger recognizes the position of a great many retailers who are watching the rapid expansion of self-service from behind the counter--and perhaps getting a little panicky. He suggests, however, that before they make any changes, they be able to answer most of the following questions affirmatively. The questions, listed in order of importance, apply to meat retailing but are pertinent to self-service generally:

1. Will all or practically all of your customers accept self-service meats and continue to patronize your store?
2. Is your location such as to attract transient customers?
3. Do you and your employees have confidence and faith in the self-service method?
4. Are you and your employees prone to orderliness in your store operations?
5. Are you willing to be patient and gradually educate your customers and not be of a type characterized as one that says, "Take it or leave it"?
6. Will you be willing to render special services without showing any disapproval?
7. Are you willing to handle greater varieties, to exercise more effort and to find a "home" for the slower-moving items before freshness or condition has been affected?
8. Are you willing to study your market every day and set up a plan of operation which must be followed to the line?
9. Are you of the type to profit from your mistakes and one eager to adopt practices of the successful operator?
10. Last, but not least, is your integrity, honesty, and word beyond reproach?

If, then, in the retailer's judgment it is not the proper time to convert to 100-percent self-service, Edinger suggests that perhaps a partial self-service plan be tried. Here the retailer would handle items having a long shelf-life such as prepared and smoked meats, frozen products, dairy foods and beverages.

ABOUT MARKETING

The following addresses, statements, and publications, issued recently, may be obtained upon request. To order, check on this page the publications desired, detach and mail to the Production and Marketing Administration, U. S. Department of Agriculture, Washington 25, D. C.

Addresses and Statements:

Food Distribution Programs of the Department of Agriculture (Summary of remarks of John I. Thompson, Asst. Administrator for Marketing, at Annual Convention of Nat'l. American Wholesale Grocers' Assn., Atlantic City, January 28, 1950.) 8 pp. (Processed)

Marketing Hogs, Address by H. E. Reed, Director, Livestock Br., before the annual meeting of Central Livestock Assn., St. Paul, Minnesota, Feb. 7, 1950. 5 pp. (Processed)

Hog Price Support Program and the Individual Producer, a statement issued by PMA. January 1950. 4 pp. (Processed)

Publications:

Agricultural Conservation Program, Statistical Summary 1948. December 1949. 95 pp. (PMA) (Processed)

Containers in Common Use for Fresh Fruits and Vegetables. FB-2013. Feb. 1950. 61 pp. (PMA) (Printed)

The Wholesale Market for Fruits, Vegetables, Poultry, and Eggs at Savannah, Ga. Feb. 1950. 65 pp. (PMA) (Processed)

A Comparative Study of Packing, Transportation, and Refrigeration Costs of Bushel Baskets and Wire-bound Boxes for Transportation of Peaches. February 1950. 22 pp. (PMA) (Processed)

Abundant Continued Production through the Agricultural Conservation Program. PA-76. 15 pp. (PMA) (Printed)

Market Outlets for Cotton in Some of the Principal Cotton Fabrics. February 1950. 113 pp. (PMA) (Processed)

Annual Report on Tobacco Statistics 1949. CS-39. December 1949. 71 pp. (PMA) (Processed)

The Marketing of Feed Molasses. Feb. 1950. 32 pp. (PMA) (Processed)

Conservation and Use of Agricultural Land Resources. January 1950. 15 pp. (PMA) (Processed)

Market News Offices, Location, Commodities, Officials in Charge. March 1950. 10 pp. (PMA) (Processed)

Corn Program for 1950. PA-85 (Folder) (PMA) (Processed)

Peanuts Program for 1950. PA-84 (Folder) (PMA) (Processed)

Rice Program for 1950--Arkansas, Mississippi, Missouri, Louisiana, South Carolina. PA-87 (Folder) (PMA) (Printed)

Rice Program for 1950--California, Texas, Arizona. PA-89. (Folder) (PMA) (Printed)

Marketing--Northwestern Apples, Season 1948-49. Jan. 1950. 30 pp. (PMA and Washington State Dept. of Agriculture cooperating) (Processed)

Apricots - 1949. Weighted Average Prices Received at Eastern Auction Markets by Varieties, by Weeks, by Markets. Dec. 1949. 9 pp. (PMA) and Calif. Dept. of Agriculture cooperating) (Processed)

Nectarines - 1949. Weighted Average Prices Received at Eastern Auction Markets by Varieties, by Weeks, by Markets. 10 pp. (PMA and Calif. Dept. of Agriculture cooperating) (Processed)

Peaches- 1949. Weighted Average Prices Received at Eastern Auction Markets by Varieties, by Weeks, by Markets. Dec. 1949. 12 pp. (PMA and Calif. Dept. of Agriculture cooperating) (Processed)

Pears - 1949. Weighted Average Prices Received at Eastern Auction Markets by Varieties, by Weeks, by Markets. Jan. 1950. 18 pp. (PMA and Calif. Dept. of Agriculture cooperating) (Processed)

Plums - 1949. Weighted Average Prices Received at Eastern Auction Markets by Varieties, by Weeks, by Markets. Dec. 1949. 30 pp. (PMA and Calif. Dept. of Agriculture cooperating) (Processed)

Marketing the Michigan Potato Crop, a brief review of the 1948 Season. Dec. 1949. 8 pp. (PMA and Michigan Dept. of Agriculture cooperating) (Processed)

U. S. Consumer Standards for Potatoes. Nov. 1947. 7 pp. (PMA) (Processed) (Corrected copy, 1950)

Benton Harbor Cash Market Fruit & Vegetable Summary--1949 Season. Dec. 1949. 4 pp. (PMA and Michigan Dept. of Agriculture cooperating) (Processed)

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